

EXHIBIT H

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

UNITED STATES OF AMERICA

v.

JAMES VELISSARIS,

Defendant.

Case No. 22 Crim. 105 (DLC)

**DECLARATION OF DR. ATANU SAHA,
PURSUANT TO 28 U.S.C. § 1746(2)**

I, Atanu Saha, declare under penalty of perjury as follows:

1. I am a Partner at StoneTurn Group, LLP (“StoneTurn”), an international economic research and consulting firm. I have nearly 30 years of experience in the application of economics and finance to complex business issues. I have served as an expert witness in matters involving securities valuation, market manipulation, ERISA, and 10b-5 claims.
2. I hold a Ph.D. from the University of California, Davis, with applied economics and econometrics as my fields of specialization. I was a tenure-track professor for four years at Texas A&M University, where I taught Ph.D.-level courses in econometrics and applied economics. My curriculum vitae is attached as Appendix A to this declaration.
3. I have reviewed and analyzed information from a variety of sources, including documents and data produced in discovery in this litigation, financial data obtained from Bloomberg, and the report filed by the Government’s witness, Dr. Faten Sabry. I filed a report in this matter on October 28, 2022.
4. Based on my review of documents and independent analysis, I have reached the following conclusions:

- a. Variance swaps are complex financial instruments. They are not traded on public exchanges and do not have readily observable values. A variance swap's value is dependent on the volatility of the underlying asset, typically a stock index such as the S&P500. When market volatility rises, a variance swap's value to the buyer (i.e., holder of the long position) increases, while the value to the seller (i.e., holder of the short position) declines.
- b. Between 2018 and early 2021, Infinity Q ("IQ") was a net buyer of variance swaps. For the variance swaps at issue, the sum of its long positions (whose value rose with rising volatility) was more than five times larger than its short positions. As a result, the combined portfolio of these variance swaps was expected to have appreciated in value when market volatility rose.
- c. In late-February and early-March of 2020, as the repercussions of the COVID pandemic unfolded, stock market volatility soared to unprecedented levels. It remained elevated through the rest of 2020. Between the last week of February 2020 and the end of February 2021, the average market volatility in the U.S. was more than double its level in calm market conditions.
- d. Consequently, the overall portfolio of IQ's variance swaps at issue was expected to have greatly appreciated in value during the period of high market volatility in February-March 2020 and to remain relatively elevated for the remainder of 2020. My review of IQ's Profit and Loss statements—which contained the valuations of the variance swaps in its portfolio—shows that was indeed the case. That is, IQ's assigned values of the variance swaps were consistent with prevailing market conditions of highly elevated volatility.

- e. Different well-informed parties may assign different contemporaneous values for the same variance swap. This is true because valuation of variance swaps requires advanced financial modelling. As a result, different sophisticated investors may have differing contemporaneous valuations of the same variance swap, depending on the specific valuation model they used. Thus, other than at inception and expiration, there does not exist a single “true” value of a variance swap, but rather a range of reasonable values, estimated using different valuation models.
- f. IQ used Bloomberg’s proprietary financial modelling program (“BVAL”) for valuation of its variance swaps. While BVAL has changed over the years, the specific version of BVAL used by IQ was plagued by serious deficiencies, which caused it to systematically undervalue most of the variance swaps at issue. In fact, BVAL’s valuations were often outside the range of reasonable valuations. For example, when market volatility spiked in February-March of 2020, BVAL used by IQ would in several cases show minimal increase or even a decrease in the value of a long variance swap. BVAL’s model output was inconsistent with market reality and outside the range of reasonable valuation. I have determined that BVAL’s errors in variance swap valuations were particularly problematic and erroneous during periods of high market volatility, as was the case between the last week of February 2020 through the end of 2020.
- g. IQ’s risk management team created, developed, and maintained a proprietary “Risk Model” to monitor the changes in the value of its holdings of variance swaps (as well as other instruments) with changing market

conditions. My analysis of the Risk Model's output shows that the model's predictions were reliably consistent with the changes in volatility measures over 90% of the time.

- h. It is my understanding that IQ relied on its Risk Model and price quotes from various broker-dealers, among other data, to assess a reasonable range of fair values of its variance swaps. When the corresponding BVAL valuations were outside the reasonable range or inconsistent with market reality, IQ altered the variance swap terms and inputted them into BVAL to generate valuations consistent with objective market conditions and the outputs of its own Risk Model.

I declare under penalty of perjury that the foregoing facts are true and correct.

Executed on March 24, 2023

A handwritten signature in black ink, appearing to read 'Atanu Saha', with a long horizontal flourish extending to the right.

Atanu Saha



Atanu Saha

Ph.D.

Partner

Los Angeles

6420 Wilshire Blvd
Suite 880
Los Angeles, CA 90048

T: +1 213 459 1830
E: asaha@stoneturn.com

New York

17 State Street
2nd Floor
New York, NY 10004

T: +1 212 430 3400

Atanu Saha, a Partner with StoneTurn, has over 25 years of experience in the application of economics and finance to complex business issues.

Dr. Saha is the author of numerous refereed journal articles, monographs and book chapters and his research has been cited in various publications, including *The Wall Street Journal*, *The Economist* and *The New York Times*. He is the recipient of the prestigious Graham and Dodd Award for financial research.

PREVIOUS EXPERIENCE

- Managing Director, Econ One Research, Inc. (2018-2020)
- Co-Founder and Chairman, Data Science Partners (2015-2018)
- Executive Vice President, Compass Lexecon (2009-2015)
- Managing Director, Alix Partners (2006-2009)
- Managing Principal, Analysis Group, Inc. (1998-2006)
- Sr. Economist, Micronomics (1995-1998)
- Faculty Member, Texas A&M University (1991-1995)

ACCOLADES

- Recipient, Graham and Dodd Award, “Best Perspectives Paper 2005” for “Hedge Funds: Risk and Return,” with B. Malkiel, Financial Analysts Journal, December 2005, 80-88.

Education

Ph.D., University of California—Davis

M.A., University of Alberta, Canada

Practice Areas

Litigation Advisory

Antitrust

Securities and Finance

Business Disputes

Competition & Class Actions

Expert Testimony

Intellectual Property

Valuation Advisory

Data Analytics

PUBLICATIONS

Refereed Publications

- “Estimating Brands’ Pay-off from Pay-For-Delay Deals,” with M. Switek, and Y. Xu, Under review.
- “The ‘Generic Competition Paradox’ Revisited,” with Yong Xu, *International Journal of the Economics of Business*, March 2021.
- “A Market Signal-Based Alternative to Buy and Hold Investing,” with Y. Xu, *Journal of Investment Management*, 19(3), 2021, 81-98.
- “Pharmaceutical Industry’s Changing Market Dynamics,” with H. Roberts, *International Journal of the Economics of Business*, 27(2), 2020, 159-175.
- “Mutual Fund Returns and Their Characteristics: A Simple Approach to Selecting Better Performing Actively-Managed Funds,” with B. Malkiel, *Journal of Investing*, 29(3) April 2020, 63-75.
- “The Rise of Dominant Firms: The Role of Chance,” with A. Havenner, *Open Economics*, 2, 2019: 76-91.
- “Are Actively Mutual Funds Per Se Imprudent Choices for 401(k) Plans?” with H. Roberts, *The Journal of Retirement*, 7, Summer 2019, 58-77.
- “Has the VIX Been Manipulated?” with B. Malkiel and A. Rinaudo, *Journal of Asset Management* 20(1), February 2019, 1-14.
- “Option Writing: Using VIX to Improve Returns,” with B. Malkiel and A. Rinaudo, *The Journal of Derivatives*, December 2018, 38-49.
- “Actively Managed versus Passive Mutual Funds: A Race of Two Portfolios,” with A. Rinaudo, *The Journal of Financial Transformation* 46, November 2017, 193-206.
- “Downside Risk Protection of Retirement Assets: A New Approach,” with A. Rinaudo, *The Journal of Financial Transformation* 45, March 2017, 111-120.
- “A Tale of Two Anomalies: Higher Returns of Low-Risk Stocks and Return Seasonality,” with C. Fiore, *The Financial Review* 50(2), 2015, 257-273.
- “An Intraday Event Study Methodology for Determining Loss Causation,” with A. Rinaudo, *The Journal of Financial Perspectives* 2(2), July 2014, 161-172.
- “Calculating Damages in ERISA Litigation,” with A. Ferrell, *The Journal of Financial Perspectives* 1(2), 2013, 93-103.
- “Valuation of Cash Flows with Time-Varying Cessation Risk,” with B. Malkiel, *Journal of Business Valuation and Economic Loss Analysis*, 7(1), 2012.
- “Detecting Price Artificiality and Manipulation in Futures Markets: An Application to Amaranth,” with H. Petersen, *Journal of Derivatives and Hedge Funds*, 18, 2012, 254-271.
- “Forward-Casting 10b-5 Damages: A Comparison to Other Methods,” with A. Ferrell, *Journal of Corporation Law*, 37(2), Winter 2012, 365-387.
- “DCF Valuation with Cash Flow Cessation Risk,” with B. Malkiel, *Journal of Applied Finance*, 1, 2012, 175-185.
- “Securities Litigation and the Housing Market,” with A. Ferrell, *Journal of Corporation Law*, Fall 2009, 92-122.

Atanu Saha, Ph.D.

Partner

-
- “The Clustering of Extreme Movements: Stock Prices and the Weather,” with B. Malkiel and A. Grecu, *The Journal of Investment Management*, 2009, 20-35.
 - “The Loss Causation Requirement for Rule 10b-5 Causes-of-Action: The Implication of *Dura Pharmaceuticals v. Broudo*,” with A. Ferrell, *The Business Lawyer*, November 2007.
 - “Why Do Hedge Funds Stop Reporting Their Performance?” with A. Grecu and B. Malkiel, *Journal of Portfolio Management*, Fall 2007, 119-126.
 - “To Bundle or Not To Bundle: Firms’ Choices Under Pure Bundling,” with G. Hubbard and J. Lee, *International Journal of the Economics of Business*, February 2007, 59-83.
 - “Complementary Goods: Prices and Consumer Welfare Under Duopoly and Monopoly,” with A. Girnius and O. Andriychenko, *International Journal of the Economics of Business*, November 2006, 373-386.
 - “Generic Competition in the U.S. Pharmaceutical Industry,” with H. Grabowski, H. Birnbaum, P. Greenberg, and O. Bizan, *International Journal of the Economics of Business*, April 2006, 15-38.
 - “Hedge Funds: Risk and Return,” with B. Malkiel, *Financial Analysts Journal*, December 2005, 80-88. Recipient of the Graham and Dodd “Best Perspectives Paper” Award, 2005.
 - “Predicting the Price Effect of Mergers with Polynomial Logit Demand,” with P. Simon, *International Journal of the Economics of Business*, Antitrust Special Issue, 7, 2000, 149-157.
 - “The Economics of Crime and Punishment: An Analysis of Optimal Penalty,” with G. Poole, *Economics Letters*, 68, 2000, 191-196.
 - “A New Approach to Estimating Damages in Mass Torts,” with L. Hilton, *International Journal of the Economics of Business*, 7, 2000, 27-46.
 - “He Came, He Saw, [and] He Waited: An Empirical Analysis of Inertia in Technology Adoption,” with D. Dong, *Applied Economics*, 30, 1998, 893-905.
 - “Refutable Implications of the Firm Model Under Risk,” with R. Shumway, *Applied Economics*, 30, 1998, 441-448.
 - “Risk Preference Estimation in the Nonlinear Mean Standard Deviation Approach,” *Economic Inquiry*, 35, 1997, 770-782.
 - “Estimating Nested Count Data Models,” with D. Dong, *Oxford Bulletin of Economics and Statistics*, 59, 1997, 423-430.
 - “Expo-Power: A Flexible Hazard Function for Duration Data Models,” with L. Hilton, *Economics Letters*, 54, July 1997, 227-233.
 - “Stochastic Production Function Estimation: Small Sample Properties of ML versus FGLS,” with A. Havenner and H. Talpaz, *Applied Economics*, 29, 1997, 459-469.
 - “Calculating Marginal Effects in Models for Zero Expenditures in Household Budgets Using a Heckman-type Correction,” with O. Capps and P. Byrne, *Applied Economics*, 4, 1997, 181-185.
 - “Calculating Marginal Effects in Dichotomous-Continuous Models,” with O. Capps and P. Byrne, *Applied Economics Letters*, 4, 1997, 181-185.
 - “The Economics and Econometrics of Damage Control,” with C.R. Shumway and A. Havenner, *American Journal of Agricultural Economics*, 79, 1997, 773-785.

-
- “Analysis of Food Away from Home Expenditure Patterns for US Households, 1982–1989,” with P. Byrne and O. Capps, *American Journal of Agricultural Economics*, 78, 1996, 614–627.
 - “The Role of Information in Technology Adoption: The Case for rbST in the California Dairy Industry,” with C. Klotz and L. J. Butler, *Review of Agricultural Economics*, 17, 1995, 287–298.
 - “Production and Savings Under Uncertainty,” with R. Innes and R. Pope, *International Review of Economics and Finance*, 2, 1994, 365–375.
 - “A Two-Season Agricultural Household Model of Storage and Savings Under Uncertainty,” *Journal of Development Economics*, 45, 1994, 245–269.
 - “Adoption of Emerging Technologies Under Uncertainty,” with A. Love and R. Schwartz, Jr., *American Journal of Agricultural Economics*, 76, 1994, 836–846.
 - “A Household Model of On-farm Storage Under Price Risk,” with J. Stroud, *American Journal of Agricultural Economics*, 76, 1994, 522–534.
 - “Joint Estimation of Risk Preference and Production Technology Using the Expo-Power Utility Function,” with R. Shumway and H. Talpaz, *American Journal of Agricultural Economics*, 76, 1994, 173–184.
 - “Compensated Optimal Response Under Uncertainty in Agricultural Household Models,” *Agricultural Economics*, 11, 1994, 111–123.
 - “Expo-Power Utility: A Flexible Form for Absolute and Relative Risk Aversion,” *American Journal of Agricultural Economics*, 75, 1993, 905–913.

Monographs, Books and Other Publications

- “Archegos Fallout is a Wake-Up Call For Banks,” with J. Copeland and Y. Xu, *Law360*, May 2021.
- “What Really Caused Carnival's COVID-19 Stock Drop?” with Yong Xu, *Law360*, November 2020.
- “Will Recession Strike in 2020?” with B. Malkiel, *The Wall Street Journal*, December 2019.
- “What an Economic Analysis Reveals About ERISA Litigation,” with A. Rinaudo, *Law 360*, February 2019.
- “Conditional Option Writing: Using VIX to Improve Returns,” with A. Rinaudo and B. Malkiel, *Seeking Alpha*, October 2018.
- “Commentary: Inclusion of High-Fee Funds not Necessarily a Breach of Fiduciary Duty,” with A. Rinaudo, *Pensions & Investments*, May 2018, 12.
- “Are Traditional Valuation Models Flawed? An Illustrative Example: Valuing a Hedge Fund,” with B. Malkiel, *ValueWalk*, March 2018.
- “Hedge Funds Today: Caveat Emptor,” with B. Malkiel, *The Wall Street Journal*, July 2005.
- “The Projected Effects of rbST and MOET on World Dairy Markets,” with L. Jarvis. Chapter in *The Potential Effect of Two New Biotechnologies on the World Dairy Industries*, Westview Press, 1996.